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EXAMINER
METJAHIC, S

ART UNIT PAPER NUMBER

2602

DATE MAILED:

04/02/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☒ Responsive to communication filed on 3/16/96 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-34 are pending in the application.
Of the above, claims are withdrawn from consideration.
2. ☐ Claims have been cancelled.
3. ☐ Claims are allowed.
4. ☒ Claims 1-34 are rejected.
5. ☐ Claims are objected to.
6. ☐ Claims are subject to restriction or election requirement.
7. ☐ This application has been filed with Informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. ; filed on
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

SUPPLEMENTAL EXAMINER'S ACTION

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1. This is a supplemental Office Action. The original Office action mailed 2/21/96 contained an error which was brought to the Office's attention in applicant's letter filed 3/16/96. Accordingly, the period for response is restarted with the mailing of this Action.

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and the finality of that action is withdrawn.

2. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1-27 & 29-34 are rejected under 35 U.S.C. § 103 as being unpatentable over Litteral et al. (provided by Applicant) in view of Palazzi, III et al. & U.S. Patent No. 5,440,632 (hereinafter "Bacon")(provided by applicant).

Referring to claims 1 & 7, Litteral et al. (Litteral) discloses (Figure 2) an enhanced public switched telephone network supporting two-way voice and data to subscribers in which digital data is transmitted under the control of a network management system (28) (see Figure

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2) for sending and receiving control signals through interface modules (ADSL interface units & ISDN D channel interface)(Figure 2, elements 16, 18, 104, 124, 38); control unit (130) for receiving user inputs and providing control signals to the network management system (28); temporary storage (42) which stores the data received in response to a command; and, decoders (106 & 126) for performing the claimed audio/video processing (column 5, lines 11-17). Litteral fails to disclose: 1) programming the control of subsequent operations of the terminal including at least some audio/video processor operations and at least some responses to the user inputs; 2) control is carried out by downloading software programs over the broadband channel; and, 3) compressing/decompressing the broadband information. As for the first limitation, Palazzi, III et al. (Palazzi) discloses (column 9, lines 43-53) an interactive terminal for accessing remote database information in which the terminal may be programmed or reprogrammed by the host data base operator for instance to change for example, internal program operation, screen information, character generation fonts, functions associated with specific keys of a keypad, etc. Therefore, Palazzi discloses control of operations of the terminal including audio/video operations such as character fonts and screen information as well as controlling operations in response to user inputs such as the functions associated with the specific keys of the keypad as claimed. It would have been obvious to one of ordinary skill in the art to modify Litteral as taught by Palazzi and control subsequent actions of the terminal so that future enhancements or functions may be easily and inexpensively implemented. As for the second limitation, Bacon discloses (column 2, lines 16-33) that it is

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old and well known in the art to control a subscriber terminal by downloading software over a broadband channel to control the microprocessor (128). Although Palazzi discloses that the operations be performed in accordance with programming from the host database operator, it would have been obvious to one of ordinary skill in the art to modify Litteral & Palazzi as taught by Bacon and implement the new operations using downloaded software over a broadband channel thereby making it possible for a system operator to upgrade the software in subscriber terminals remotely thereby saving time and money. As for the third limitation, the Examiner takes Official notice that it is old and well known in the art to perform compression/decompression algorithms on the data. It would have been obvious to one of ordinary skill in the art to modify Litteral, Palazzi & Bacon and include such compression/decompression processing in order to increase the amount of data capable of being stored.

Referring to claim 2, Litteral discloses (Figure 2 & column 5, lines 11-17) decoders (106 & 126) for decompressing the digital information including the digitized audio and video signals. Litteral fails to disclose a graphics overlay controller for generating graphic display information and means for combining the display information with the decompressed video signal. Teletext communication systems are old and well known in the art to include a graphics generator and controller as well as a mixer for combining the graphics information with video data. It would have been obvious to one of ordinary skill in the art to modify

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Litteral, Palazzi & Bacon and include a graphics overlay controller and combiner to provide enhance features such as receiving teletext or closed captioning data.

Referring to claim 3, Litteral specifically discloses (column 7, lines 38-43) the use of MPEG encoding techniques on the analog signal to convert the signal to digital format. Litteral also discloses (Figure 2 & column 5, lines 11-17) the use of decoders (106 & 126) for decompressing the digitized audio and video signals and a demultiplexer for separating the audio and video data (column 6, lines 57-58).

Referring to claim 4, Litteral discloses (Figure 2) that the decoders (106 & 126)(analogous to the claimed "audio/video processor") has output means to the subscriber terminals for driving a television receiver (108 & 128).

Referring to claims 5 & 8, Bacon discloses (column 2, lines 6-33) a reprogrammable subscriber terminal which may be reprogrammed by downloading software from the headend to be executed by the control microprocessor so as to modify the features associated with the service. It would have been obvious to one of ordinary skill in the art to modify Litteral & Palazzi as taught by Bacon and download software to modify the control program from a remote location. Since the features of each service differ and Bacon discloses that it is old and well known in the art to alter the features of a single service to modify the features, it inherently follows that it would have been obvious to one of ordinary skill in the art to modify the features as taught by Bacon so as to adapt the terminal to interact with various services in order to enhance the overall features of the distribution system.

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Palazzi discloses (column 9, lines 43-53) an interactive terminal for accessing remote database information in which the terminal may be programmed or reprogrammed by the host data base operator for instance to change for example, internal program operation, screen information, character generation fonts, functions associated with specific keys of a keypad, etc. Therefore, Palazzi discloses controlling operations in response to user inputs such as the functions associated with the specific keys of the keypad as claimed. Such operations are application specific and therefore inherently would be carried out by application programs. It would have been obvious to one of ordinary skill in the art to modify Litteral & Bacon as taught by Palazzi and include application programming to provide enhanced features to the system by allowing the applications to be specifically designed for each database.

Referring to claims 6 & 9, Palazzi discloses (column 9, lines 43-53) an interactive terminal for accessing remote database information in which the terminal may be programmed or reprogrammed by the host data base operator for instance to change for example, internal program operation, screen information, character generation fonts, functions associated with specific keys of a keypad, etc. Therefore, Palazzi discloses control of operations of the terminal including audio/video operations such as character fonts and screen information. Such operations inherently involve the operating system functions and therefore would be executed using operating system programming. It would have been obvious to one of ordinary skill in the art to modify Litteral & Bacon as taught by Palazzi and include operating system

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programming to provide enhanced features to the system by allowing the overall functions of the system to be specifically designed for each database.

Referring to claim 10, Litteral discloses (column 10, lines 15-18) that it is old and well known in the art to prevent access to a database by requiring proper authorization before information is transmitted. It would have been obvious to one of ordinary skill in the art to expand this known function to the present situation in which information (in the particular case software) would not be transmitted until proper authorization or identification has been received for system security to prevent access to unauthorized users.

Referring to claim 11, the limitations are the as those addressed above with respect to independent claim 1 except for the following additional limitations: 1) providing a plurality of service providers; and, 2) writing over the previous software. As for the first limitation, Litteral discloses (Figure 2) a system including different service providers (142 & 162). As for the second limitation, it would have been obvious to one of ordinary skill in the art to modify Litteral, Palazzi & Bacon and rewrite over the existing software in memory in order to upgrade the software.

Claim 12 differs from that of claim 11 in that more than one information provider may be accessed. It would have been obvious to one of ordinary skill in the art to modify Litteral, Palazzi & Bacon and permit more than one information provider to be accessed to provide greater flexibility to the system.

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Referring to claim 13, Litteral discloses (Figure 2 & column 10, lines 18-22) receiving a service provider selection as input to the terminal (100 & 120), establishing a two-way communication link between the terminal (100 & 120) and the gateway (32), and establishing a downstream, broadband, digital communication link between the terminal (100 & 120) and the VIP (142 & 162) so that stored data is sent to the DCS node (24).

Claims 24 & 25 have the same limitations as found in claims 1 & 7 which were addressed above and includes the further limitation of determining if the information service provider is authorized prior to downloading the information (software). Litteral discloses (column 10, lines 15-18) that it is old and well known in the art to prevent access to a database by requiring proper authorization before information is transmitted. It would have been obvious to one of ordinary skill in the art to expand this known function to the present situation in which information (in the particular case software) would not be transmitted until proper authorization or identification has been received for system security to prevent access to unauthorized users.

Referring to claim 26, the limitations are the same as those addressed above with respect to independent claim 1 except for the following additional limitations: 1) providing a plurality of service providers; and, 2) writing over the previous software. As for the first limitation, Litteral discloses (Figure 2) a system including different service providers (142 & 162). As for the second limitation, it would have been obvious to one of ordinary skill in the

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art to modify Litteral, Palazzi & Bacon and rewrite over the existing software in memory in order to constantly refresh the memory.

Claim 27 differs from that of claim 11 in that more than one information provider may be accessed. It would have been obvious to one of ordinary skill in the art to modify Litteral, Palazzi & Bacon and permit more than one information provider to be accessed to provide greater flexibility to the system.

Referring to claim 29, Palazzi discloses (column 9, lines 43-53) an interactive terminal for accessing remote database information in which the terminal may be programmed or reprogrammed by the host data base operator for instance to change for example, internal program operation, screen information, character generation fonts, functions associated with specific keys of a keypad, etc. Therefore, Palazzi discloses control of operations of the terminal including audio/video operations such as character fonts and screen information as well as controlling operations in response to user inputs such as the functions associated with the specific keys of the keypad as claimed. It would have been obvious to one of ordinary skill in the art to modify Litteral & Bacon as taught by Palazzi and control subsequent actions of the terminal so that future enhancements or functions may be easily and inexpensively implemented. Litteral & Palazzi fail to disclose that the software is stored. Bacon discloses (column 2, lines 6-33) that it is old and well known in the art to control a subscriber terminal by downloading software over a broadband channel into a memory. Although Palazzi discloses that the operations be performed in accordance with programming from the host

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database operator, it would have been obvious to one of ordinary skill in the art to modify Litteral & Palazzi as taught by Bacon and implement the new operations using downloaded software thereby making it possible for a system operator to upgrade the software in subscriber terminals remotely.

Referring to claim 30, the limitations are the same as those addressed above with respect to independent claim 28 except for the following additional limitations: 1) providing a plurality of service providers; and, 2) writing over the previous software. As for the first limitation, Litteral discloses (Figure 2) a system including different service providers (142 & 162). As for the second limitation, it would have been obvious to one of ordinary skill in the art to modify Litteral, Palazzi & Bacon and rewrite over the existing software in memory in order to constantly refresh the memory.

Claim 31 differs from that of claim 28 in that more than one information provider may be accessed. It would have been obvious to one of ordinary skill in the art to modify Litteral, Palazzi & Bacon and permit more than one information provider to be accessed to provide greater flexibility to the system.

Referring to claim 32, Litteral et al. (Litteral) discloses (Figure 2) an enhanced public switched telephone network supporting two-way voice and data from a plurality of video information providers (142 & 162) to a plurality of subscriber terminals (100 & 120) in which digital data is transmitted under the control of a network management system (28) (see Figure 2) for sending and receiving control signals through interface modules (ADSL interface units

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& ISDN D channel interface)(Figure 2, elements 16, 18, 104, 124, 38); control unit (130) for receiving user inputs from a remote control (132) and providing control signals to the network management system (28); temporary storage (42) which stores the data received in response to a command; and, decoders (106 & 126) for performing the claimed audio/video processing (column 5, lines 11-17). Litteral fails to disclose: 1) programming the control of subsequent operations of the terminal including at least some audio/video processor operations and at least some responses to the user inputs; and, 2) control is carried out by stored software programs. As for the first limitation, Palazzi, III et al. (Palazzi) discloses (column 9, lines 43-53) an interactive terminal for accessing remote database information in which the terminal may be programmed or reprogrammed by the host data base operator for instance to change for example, internal program operation, screen information, character generation fonts, functions associated with specific keys of a keypad, etc. Therefore, Palazzi discloses control of operations of the terminal including audio/video operations such as character fonts and screen information as well as controlling operations in response to user inputs such as the functions associated with the specific keys of the keypad as claimed. It would have been obvious to one of ordinary skill in the art to modify Litteral as taught by Palazzi and control subsequent actions of the terminal so that future enhancements or functions may be easily and inexpensively implemented. As for the second limitation, Bacon discloses (column 2, lines 6-33) that it is old and well known in the art to control a subscriber terminal by downloading software over a broadband channel into a memory. Although Palazzi discloses that the

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operations be performed in accordance with programming from the host database operator, it would have been obvious to one of ordinary skill in the art to modify Litteral & Palazzi as taught by Bacon and implement the new operations using downloaded software thereby making it possible for a system operator to upgrade the software in subscriber terminals remotely.

Referring to claim 33, Litteral discloses (Figure 2) video storage (144 & 146) for storing the compressed digital data and a gateway (32). Litteral fails to disclose that the server also stores the predetermined data. Bacon discloses (column 2, lines 6-33) that it is old and well known in the art for the control microprocessor to use program code stored in its memory (RAM) to perform certain functions. It would have been obvious to one of ordinary skill in the art to modify Litteral & Palazzi as taught by Bacon and store the predetermined data (software) so that the same operations or functions may be readily executed.

Referring to claim 34, Litteral discloses (see abstract) the use of a public switched telephone network (PSTN) as the communication network.

Referring to claim 14, Litteral et al. (Litteral) discloses (Figure 2) an enhanced public switched telephone network supporting two-way voice and data from a plurality of video information providers (142 & 162) to a plurality of subscriber terminals (100 & 120) in which digital data is transmitted under the control of a network management system (28) (see Figure 2) for sending and receiving control signals through interface modules (ADSL interface units

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& ISDN D channel interface)(Figure 2, elements 16, 18, 104, 124, 38); control unit (130) for receiving user inputs from a remote control (132) and providing control signals to the network management system (28); and, decoders (106 & 126) for performing the claimed audio/video processing (column 5, lines 11-17). Litteral fails to disclose: 1) the claimed system memory; 2) means for combining the graphic display information, generated in response to execution of the software with the video signal; and, 3) performing compression/decompression processing on the broadband information. As for the first limitation, Palazzi, discloses (column 6, lines 22-42) a memory device in the CPU for storing programming information in a ROM and a RAM. It would have been obvious to one of ordinary skill in the art to modify Litteral as taught by Palazzi and store the programming information for future retrieval by the CPU to control the operation of the system. As for the second limitation, Bacon discloses (column 2, lines 16-33) that the downloaded program code provides the means for changing the control program of the control microprocessor to add additional features. Furthermore, in column 1, lines 25-35 Bacon also states that it is old and well known in the art to generate on-screen graphics displays (a graphics generator) so that the user may easily manipulate the subscription service according to the displayed features. Therefore, although it is not specifically mentioned by Bacon, it is inherent that if the features are altered by the downloaded software that the associated graphics displays must also be altered by the software. Furthermore, mixers are old and well known in the art for combining the graphics information with video data so that the viewer may view both simultaneously. As for the

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third limitation, the Examiner takes Official notice that it is old and well known in the art to perform compression/decompression algorithms on the data. It would have been obvious to one of ordinary skill in the art to modify Litteral & Palazzi and include such compression/decompression processing in order to increase the amount of data capable of being stored.

Referring to claim 15, Litteral discloses (Figure 2) ADSL interfaces (104 & 124) which are coupled to the decoders (106 & 126), respectively. Litteral fails to specifically disclose that the interface modules are replaceably detachable. It would have been obvious to one of ordinary skill in the art to modify Litteral & Palazzi and use replaceably detachable interface modules so that may changed so that the appropriate interface may be selected for use with different peripheral devices.

Referring to claim 16, Litteral specifically discloses (column 7, lines 38-43) the use of MPEG encoding techniques on the analog signal to convert the signal to digital format. Litteral also discloses (Figure 2 & column 5, lines 11-17) the use of decoders (106 & 126) for decompressing the digitized audio and video signals and a demultiplexer for separating the audio and video data (column 6, lines 57-58).

Referring to claim 17, Litteral discloses (Figure 2) that the decoders (106 & 126)(analogous to the claimed "audio/video processor") has output means to the subscriber terminals for driving a television receiver (108 & 128).

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Referring to claim 18, Litteral discloses (column 5, lines 11-17) DAC for converting the decompressed video and audio signals to analog form for display at the subscriber terminal.

Referring to claims 19 & 20, Litteral discloses (Figure 2) a control unit (130) for receiving infrared signal from remote control (132).

Referring to claim 21, serial data transceiver ports are old and well known in the art and therefore it would have been obvious to one of ordinary skill in the art to modify Litteral & Palazzi for receiving serial data transmissions.

Referring to claim 22, magnetic card readers are old and well known in the art therefore it would have been obvious to one of ordinary skill in the art to modify Litteral & Palazzi and include a magnetic card reader to charge a subscriber for transmitted information.

Referring to claim 23, memory card interface ports are old and well known in the art and therefore it would have been obvious to one of ordinary skill in the art to modify Litteral & Palazzi and include a memory interface port so that detachable memory devices may be used with the device for easy upgrading of the system.

3. Claim 28 is rejected under 35 U.S.C. § 103 as being unpatentable over Litteral et al. (provided by Applicant) in view of U.S. Patent 5,440,632 (hereinafter "Bacon").

Referring to claim 28, Litteral discloses (see abstract and Figure 2) an enhanced public switched telephone network supporting broadband digital audio/video data transmission

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between subscriber terminals and a plurality of video information providers (142 & 162).

Litteral fails to disclose: 1) determining if the operating system is compatible to that previously stored, if the software is compatible, supplying the software to the CPU: and, 2) if the software is not compatible, downloading new operating system software. As for the first limitation, Bacon discloses (column 10, lines 63-66) that is old and well known in the art to update the control microprocessor in order to provide compatible conversion. Inherently, then some type of means must be present to determine if the programs are compatible.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Litteral as taught by Bacon and determine if the operating system is compatible so that the two devices can properly communicate. As for the second limitation, Bacon teaches (column 2, lines 6-33) that it is old and well known in the art to modify a terminal by downloading software over a broadband channel from a remote location. It would have been obvious to one of ordinary skill in the art to modify Litteral as taught by Bacon and modify the incompatible software from a remote terminal in order to reduce the time to upgrade the software since you no longer need to send someone out to the location and save money since hardware no longer would require replacement.

4. Applicant's arguments filed on January 29, 1996 have been fully considered but they are not deemed to be persuasive.

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A. The Examiner does not agree with Applicant's assertion that the claimed invention is patentable because the prior art of record fails to disclose or suggest the graphics display information, generated in response to execution of the software with the decompressed video signal, to produce a signal for driving the display. As stated in the rejection set forth above with respect to claim 14, Bacon discloses (column 2, lines 16-33) that the downloaded program code provides the means for changing the control program of the control microprocessor to add additional features. Furthermore, in column 1, lines 25-35 Bacon also states that it is old and well known in the art to generate on-screen graphics displays (inherently using a graphics generator) so that the user may easily manipulate the subscription service according to the displayed features. Therefore, although it is not specifically mentioned by Bacon, it would have been obvious to one of ordinary skill in the art that if the features are altered by the downloaded software the associated graphics displays must also be altered by the software. Furthermore, mixers are old and well known in the art for combining the graphics information with video data so that the viewer may view both simultaneously. Therefore, the claimed invention is rendered obvious over the prior art of record.

B. As for Applicant's remarks that Palazzi and Freeza (which is no longer used as a basis for rejecting the claimed invention) are non-analogous art, the Examiner maintains that Palazzi is in fact analogous art. Palazzi has been cited by the Examiner as specifically disclosing that it is old and well known in the art to reprogram audio/video processing by the

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host operator. Although Palazzi is applicable to low bandwidth data, instead of digital video data on a broadband channel as claimed, the Examiner maintains that nothing in Palazzi prohibits the use of such technology to be used on digital video data on a broadband channel and hence the combination of Litteral, Palazzi & Bacon would render the claimed invention obvious.

C. Finally, the Examiner maintains that Bacon discloses (column 10, lines 63-66) that it is old and well known in the art to upgrade the control microprocessor by downloading program code from a headend in order to allow compatible conversion. Thus, inherently, Bacon must include some sort of determining means to determine whether the code as stored is compatible. Although not specifically mentioned by Bacon, it would have been obvious to one of ordinary skill in the art to only upgrade the code when it is determined to be incompatible in order to save unnecessary processing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Safet Metjahic whose telephone number is (703) 305-4741. The examiner can normally be reached on Tuesdays-Fridays from 7:30 A.M. to 6:00 P.M..

The fax phone number for this Group is (703) 305-9509.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

March 28, 1996

SAFET METJAHIC



Primary Examiner
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